U.S. Department of Energy

Washington, D.C.

PAGE CHANGE

DOE 5480.1 Chg 1

12-18-80

SUBJECT: ENVIRONMENTAL PROTECTION, SAFETY, AND HEALTH PROTECTION PROGRAM FOR DOE OPERATIONS

1. PURPOSE. This page change transmits a revised Attachment 1, a table of contents, and 6 chapters of DOE 5480.1, ENVIRONMENTAL PROTECTION, SAFETY, AND HEALTH PROTECTION PROGRAM FOR DOE OPERATIONS, OF 5-5-80.

2. EXPLANATION OF CHANGE.

   a. The following chapters are added:

   ✓(1) Chapter IV, "Nuclear Criticality Safety";

   ?(2) Chapter V, "Safety of Nonreactor Nuclear Facilities";

   ?(3) Chapter VI, "Safety of Department of Energy Owned-Reactors";

   ✓(4) Chapter VII, "Fire Protection";

   ✓(5) Chapter IX, "Construction Safety and Health Programs";

   ✓(6) Chapter XII, "Prevention, Control, and Abatement of Environmental Pollution."

   ? b. A Table of Contents is added.

   ? c. Attachment 1 has been revised to delete those ERDA manual chapters which are replaced by the issuance of the attached chapters.

DISTRIBUTION:
All Departmental Elements
Federal Energy Regulatory Commission (Info)

INITIATED BY:
Operational and Environmental Safety Division

3. FILING INSTRUCTIONS.

a. Remove Page	Dated	Insert Page	Dated
Atch 1, Page 1	5-5-80	Atch 1, Page 1 (and 2)	12-18-80
Atch 1, Page 2	5-5-80		
		i through iv	12-18-80
		IV-1 through IV-16	12-18-80
		V-1 through V-6	12-18-80
		VI-1 through VI-18	12-18-80
		VII-1 through VII-12	12-18-80
		IX-1 through IX-4	12-18-80
		X-1 through X-6	12-18-80
		XII-1 through XII-4	12-18-80

b. After filing the attached pages, this transmittal may be discarded.

Lynn R. Coleman
Acting Deputy Secretary

CHAPTER IV

NUCLEAR CRITICALITY SAFETY

1. PURPOSE. The purpose of this chapter is to establish safety procedures and requirements for the Department of Energy owned nuclear facilities to assure that:

   a. Fissionable materials are produced, processed, stored, transferred, or handled in such a manner that the probability of an accidental chain reaction is acceptably low.

   b. An environmental protection, safety, and health protection program is established in accordance with the requirements stipulated in paragraphs 5, 6, 7 and 8 below.

   c. Consideration is given to all potential criticality hazards associated with fissionable material operations outside nuclear reactors.

2. REFERENCES.

   a. Handbook of Nuclear Safety, Clark, H.K., 1-61 (DP-532).

   b. Los Alamos Critical Mass Data, Paxton, H.C., 5-64 (LAMS-3067).

   c. Criticality Control in Chemical and Metallurgical Plants, Karlsruhe Symposium, Organization for Economic Cooperation and Development, European Nuclear Energy Agency, 1961.

   d. Criticality Control of Fissile Materials, Proceedings of Symposium, Stockholm, Sweden, International Atomic Energy Agency, 1966.

   e. ANSI N16 Series, N16.1 thru N16.5 inclusive, N16.8, and N16.9.

   f. The Criticality Data Center Report Series.

   g. Criticality Control in Operations With Fissile Materials, 11-72 (LA-3366, Rev.), Paxton, H.C.

   h. Criticality Problems of Actinide Elements, Clayton, E.D., and Bierman, S.R., Actinides Reviews 1 (1971), 409-432.

   i. Nuclear Safety Guide (TID-7016, Revision 2, 1978, available as NUREG/CR-0095).

3. DEFINITIONS.

a. Certification of Training. The verification by an auditable record for each operator and supervisor of the experience, education, medical conditions, training, and testing pertinent to the candidate's specific job assignment and responsibilities. This record should show that all applicable requirements of paragraph 5 are met.

b. Critical Mass. The smallest mass of fissionable material that will support a self-sustaining chain reaction under specified conditions.

c. Fissionable Materials. Nuclides capable of sustaining a neutron induced fission chain reaction, e.g., Uranium 233, Uranium 235, Plutonium 239, Plutonium 238, Plutonium 241, Neptunium 237, and Curium 244. (Additional nuclides may be included as significant quantities become available.)

d. Nuclear Criticality. A self-sustaining chain reaction, i.e.,.the state in which the effective neutron multiplication constant (K_{eff}) of a system of fissionable material equals or exceeds unity.

e. Nuclear Criticality Safety. Prevention or termination of inadvertent nuclear chain reactions, mitigation of consequences and protection against injury or damage due to an accidental nuclear criticality.

f. Nuclear Facility - See Chapter V of this Order.

g. Operator. Any individual who manipulates or handles fissionable materials or manipulates the controls of equipment used to produce, process, transfer, store, or package such materials.

h. Safety Guides. Documents designated or recognized as an acceptable basis for nuclear criticality safety evaluations. The guides are used as aids by Department of Energy field organizations when suggesting acceptable safety practices, and include material developed by Department of Energy contractors, professional societies, industrial organizations, and foreign atomic energy industries.

i. Safe Mass. That mass of fissionable materials which is subcritical for all conditions to which it could reasonably be expected to be exposed, including processing, handling, storing, and procedural uncertainties.

j. Supervisor. Any individual officially designated by the contractor management to direct the activities of operators and to supervise the operation of equipment that handles, produces, processes, stores, packages, or uses fissionable materials.

4. RESPONSIBILITIES AND AUTHORITIES.

a. The Director, Operational and Environmental Safety Division:

(1) Develops policies and adopts general standards, guides, and codes to govern the Department's program for nuclear criticality safety in Department owned nuclear facilities which involve fissionable materials. Whenever feasible, these standards, guides, and codes shall be comparable to those promulgated by the Nuclear Regulatory Commission.

(2) Coordinates the nuclear criticality safety activities of the Department of Energy with those of the Nuclear Regulatory Commission.

b. Directors of Divisions and Offices, Headquarters, shall provide functional direction to field organizations within assigned areas to assure that such direction complies with the provisions of this chapter.

c. The Deputy Assistant Secretary for Naval Reactors shall assume the same responsibilities as heads of field organizations for Naval Reactors activities.

d. Managers of Field Organizations:

(1) Assure that the Department nuclear criticality safety program is carried out in Department owned nuclear facilities which involve fissionable materials.

(2) Review existing and proposed nuclear facilities to assure that adequate consideration has been given to nuclear criticality safety in planning and carrying out their construction and operation.

(3) Authorize startup or continued operation of nuclear facilities only when such operation is consistent with provisions of this chapter and the contractor has prepared an adequate nuclear criticality safety evaluation.

(4) Authorize contractors to make equipment and procedural modifications without prior Department safety approval, provided a documented determination is made by the contractor that such changes and modifications will:

(a) Not result in significant risk to health and safety.

(b) Only involve safety considerations previously reviewed and approved by the Department under the requirements of (2) and (3) above.

(c) Not decrease or compromise safety margins or criteria previously accepted by the Department.

(d) Be consistent with other applicable administrative controls established by the Department.

(5) Require that contractors having sufficient quantities of material that have criticality potential:

(a) Prepare written procedures for the handling of fissionable materials, including storage, transfer, and processing.

(b) Establish and maintain suitable management review and audit systems and clear lines of responsibility for nuclear criticality safety within their organizations. These systems shall include provisions for contractor internal review of operations for nuclear criticality safety.

(c) Develop, establish, and maintain training programs and employee indoctrination or instruction which will promote an awareness of the risks involved and a level of proficiency consistent with assigned tasks.

(d) Develop emergency plans to handle potential accidents, including complete medical support of irradiated or contaminated people.

(6) Determine, by a program of safety appraisals and audits, that contractors comply with the requirements of this chapter. These appraisals shall be conducted and reported as prescribed by DOE 5482.1.

(7) Consistent with Order DOE 5484 (to be issued), instances of accidental criticality should be investigated to assure that necessary corrective actions are taken. Other significant incidents and accidents involving fissionable materials should be reported and investigated.

(8) Periodically evaluate the adequacy of Department criticality safety standards, guides, and codes, and recommend additions or revisions to the Operational and Environmental Safety Division.

5. PERSONNEL SELECTION AND TRAINING. A program shall be established for the selection, training, and examination and the retraining and reexamination of individuals who operate or supervise activities in nuclear facilities which involve fissionable materials. The program will promote an awareness of the risks involved and a level of proficiency consistent with assigned tasks. The purpose of this program is to assure that the nuclear facility is operated by personnel who are qualified to carry out their assigned responsibilities. It shall include the following elements:

a. Operators and supervisor candidates shall possess either formal training or pertinent experience or both, commensurate with the stated degree of responsibility and complexity of the prospective position.

b. For each type of nuclear operation management shall determine the physical demands imposed upon the operator and supervisor by the job tasks that are required to perform both routine and emergency duties. A medical examination shall be given to prospective employees and a re-examination shall be given to requalifying operators and supervisors (See Chapter XV of this Order) to verify health and physical fitness to safely perform their defined tasks. Operators and supervisors must be cleared by medical examination prior to returning to work following any serious injury or illness.

c. Sufficient company time shall be provided for training and retraining on a continuing basis.

d. The training program shall provide for evaluating the progress of each trainee periodically during training. Each evaluation shall require the demonstration of a satisfactory knowledge of all required subjects and procedures covered in the training program. The demonstration may be oral, written, operational, or all three as appropriate to the position, experience, and educational level of the employee. Upon completion of the program, the final evaluation of the candidate's proficiency shall be made by the examining official. A file record of the employee's training, including a record of the subjects covered in oral and operating tests and the written examinations, shall be maintained.

e. Certification of training shall be made by a cognizant management or supervisory official following a finding that the candidate's proficiency is satisfactory after completion of the training program and receipt of a satisfactory statement of the candidate's medical condition and other pertinent information.

f. Retraining and re-examination shall be required at least annually on all procedures for handling abnormal nuclear facility conditions and emergency situations relative to the employee's assigned responsibilities, and at least every 2 years on all other subjects in which the operator or supervisor is expected to be proficient.

g. Recertification of training shall be documented by contractor management at least every 2 years.

h. The program shall be auditable by contractor management and by the Department.

i. Retraining for operators and supervisors following extended absence from the nuclear facility shall be required. The extent of retraining will depend upon the length of absence and the type of work and operational routine in the event of changes. For absences of 3 months or less, if retraining is deemed necessary, informal retraining and oral testing may be sufficient. For absences of 3 to 12 months, selected retraining as appears necessary, including training in the use of, and familiarization with, any new devices or changes in the process, with appropriate demonstrations of knowledge and proficiency, is required. For absences greater than 1 year, a re-examination shall be required and where indicated by the results of that examination, retraining shall be mandatory.

j. The program shall provide for training, retraining, and examination in the following areas to the extent that they are pertinent to the position in question (supervisor training shall require an understanding in greater depth than operator training):

(1) Standard and Emergency Operating Procedures. Normal operating procedures, abnormal and emergency actions, and administrative controls and responsibilities.

(2) Radiological Safety and Control. Radiation hazards, monitoring, safety practices, control procedures, and terminology.

(3) Safety and Emergency Systems. The kind of equipment, operating characteristics and procedures, and testing requirements of safety systems, etc.

(4) Instrumentation and Control. Types of instruments and control systems, including principles of operation and consequences of malfunctions.

(5) Facility Operating Characteristics. Principal features, operating parameters, and operating limits of the facility, including the auxiliary systems.

(6) Principles of Nuclear Facility Operation. The processes involved and technical terminology for the chemical, physical, and metallurgical reactions.

(7) Materials Handling Facilities and Procedures.

k. On-the-job training shall be provided to assure that personnel are familiar with all aspects of their positions. As appropriate, such training shall include:

(1) Normal procedures.
(2) Emergency actions.
(3) Radiation control practices.
(4) Location and functions of the pertinent safety systems.
(5) Procedures for making changes or alterations in the operations.

l. In the case of initial startup of a new nuclear facility or operation precluding prior on-the-job training, practical experience at similar facilities, training on simulators, or other appropriate training shall be considered.

m. The supervisor training program, in addition to the above, shall include the following material to the extent that it is pertinent:

(1) Design, control, and operating limitations for the facility, including instrumentation characteristics, adjustment, operation, facility console control mechanisms, and control room manipulations.

(2) Procedures for making design and operating changes, including changes in operating procedures.

(3) Radiation hazards which may arise during the performance of experiments other than those in critical assemblies.

(4) Nuclear and radiation theory, including details of fission process, neutron multiplication, source effects, neutron poison effects, reactor kinetics, and criticality indications.

(5) Specific operating characteristics of the facility, such as causes and effects of temperature, pressure, and reactivity changes.

(6) Procedures and limitations involved in initial equipment loading, alterations in fissionable material configuration, and determination of various internal and external effects on reactivity.

(7) Procedures, equipment, and facilities available for handling and disposing of radioactive materials and effluents.

n. Employees other than operators and supervisors shall be trained regarding nuclear criticality safety requirements to a level of proficiency consistent with their job.

o. Any exemption from the requirements set forth in this section shall be obtained from the Director, Operational and Environmental Safety Division. (The name of the operator or supervisor and the specific subject for which the exemption is requested, along with the justification for the exemption shall be submitted). Exemptions shall be requested only in specific areas for those operators and supervisors who are exceptionally well qualified by past experience and education, and who have been continuously employed in the same type position.

6. REQUIREMENTS. The following basic elements of nuclear criticality safety, or their equivalent, shall be provided as applicable in contractors' programs:

a. Process Analysis. Before beginning an operation with fissionable materials, or changing an existing operation, a preoperational audit shall be made to determine that the entire process will be subcritical under both normal and abnormal operating conditions that could reasonably be expected to occur. Distinction may be made between shielded and unshielded facilities, and the criteria may be less stringent when adequate shielding assures the protection of personnel.

b. Identification of the Parameters on Which Prevention of Accidental Nuclear Criticality Will Depend. The basis for establishing subcriticality shall be noted for all significant conditions at each step in the process. This may, in the case of established facilities or operations, consist of references to existing nuclear criticality safety evaluations.

c. Written Plans and Procedures. Operations wherein nuclear criticality safety is a consideration shall be governed by written plans and procedures. These plans and procedures shall be an integral part of the initial proposal for the nuclear facility, its operations, and subsequent modifications that may affect the nuclear reactivity. The plans and procedures shall include the following, where applicable:

(1) Plans for receiving fissionable material into the facility and for inspecting the shipment on receipt, including procedures for:

(a) Determining, verifying, or noting the contents of each package, including the net weight of fissionable material therein.

(b) The placing of materials in the receiving area and the storage facility.

(c) Handling wet or damaged packages.

(2) Plans and procedures for storing fissionable material, including:

(a) Limitations on total quantity of material, quantity of each individual unit, container dimensions, and spacing between units.

(b) Description of containers in which fissionable materials are stored.

(c) Description of the storage facility, including dimensions and materials used in construction of the enclosure and shelving, cubicles, cages, and other equipment within the storage area.

(d) Precautions to avoid entry of water or other material into a storage area where moderating and reflecting effects would be unsafe.

(e) Administrative controls over the distribution of fissionable material from storage and its return to storage, including means of verifying the weight, isotopic content, chemical composition, and degree of moderation.

(3) Plans and procedures for processing the fissionable material, including:

(a) A description, using appropriate sketches or drawings, of equipment and facilities in which the hazard of criticality exists, and showing dimensions in sufficient detail to permit evaluation of the information mentioned in (c) and (f) below.

(b) A statement of the chemical and physical form of fissionable material in each step of the operation, including isotopic content, the nature of any material, and the resulting concentrations, densities, and degrees of moderation throughout the steps of the process.

(c) A statement of the maximum quantities of fissionable material allowed at any one time in each step of the process.

(d) Spacing of masses of fissionable material within each process area, and separation from fissionable material in adjoining areas.

(e) Methods of collecting, handling, and transporting fissionable material from each process area or individual operation, and evaluation of the nuclear safety of these methods.

(f) Description of procedures which are intended to prevent criticality resulting from accumulation of fissionable material in scrap or waste, lathe turnings, crucible slag, pickling solutions, choppings, sumps, filters, etc.

(g) Installed or proposed criticality alarm system and emergency procedures, including alarm levels, fail-safe features, response time of devices, and frequency of evacuation drills. Pertinent documents shall show the location of all detectors, their distance to possible sources of criticality, and intervening shielding. The criticality alarm system shall be installed in all locations wherein the quantities of fissionable material may exceed 700 grams of Uranium 235, 520 grams of Uranium 233, 450 grams of plutonium, or 450 grams of any combination of these three nuclides. (Limits for other fissionable materials shall be as indicated in American National Standard Institute Standard ANS 8.15, "Nuclear Criticality Control of Special Actinide Elements," when issued.). These limits may be exceeded when justified by consideration of the physical form and isotopic distribution of the fissionable material. This justification must be based upon a documented analysis demonstrating that, in such cases, the alarm system is not required. Special attention

shall be given to all processes in which reflectors and moderators more effective than hydrogen are present and, as appropriate, the above limits reduced so that nuclear reactivity is not increased.

(h) A monitoring system, using gamma- or neutron-sensitive radiation detectors which will initiate a clearly audible alarm, distinctive in tone, if accidental criticality occurs, is required. The detectors shall be capable of detecting a criticality condition that produces an absorbed dose in free air of 20 rads of combined neutron and gamma radiation at an unshielded distance of 2 meters from the reacting material within 60 seconds. Provisions shall be made to minimize false alarms. These provisions may include concurrent response of two or more detectors or single, highly reliable detectors to initiate an alarm. In redundant systems, failure of any single channel shall be into the alarm state. Warning of malfunctions within the alarm system without activation of the alarm shall be provided. Evacuation for such warning may not be required. This paragraph is not intended to require underwater monitoring when special nuclear material is handled or stored beneath water shielding adequate to protect the personnel. Also, such alarm systems are not required for material during shipment or material packaged in approved shipping containers awaiting transport, provided no other operation involving fissionable material not so packaged is permitted on the dock or in the shipment area. Such an area or dock shall be located so that the interaction between fissionable material positioned thereon and any other arrays of fissionable material is essentially zero. (See Chapter III of this Order for details regarding the safe shipment of fissionable materials.).

(i) Where the function of the facility is to store radioactive waste packaged elsewhere, the plans and procedures required in paragraph 6c(3) may be appropriately combined with those required for storage in paragraph 6c.(2).

(j) The plans described in paragraphs 6c (1) and (2) may make suitable allowance for situations where fissionable contents are repetitive or known from the work of others; e.g., the cases of mass-produced fuel elements and waste containers for which the fissionable content has previously been determined by a method known to be reliable.

d. Records. Operations wherein nuclear criticality safety is a consideration shall provide for control and traceability of records, such as plans, procedures, inspections, monitoring systems, etc., regarding the collection, handling, transportation, inspection, receipt, and monitoring of fissionable material.

7. CONTRACTOR INDEPENDENT REVIEW AND APPRAISAL SYSTEM. The field office shall require each contractor to establish and maintain an internal safety review system for criticality safety which:

a. Functions primarily in an advisory capacity to the line organization, reporting to a designated position or authority at a level of management sufficiently high to take any necessary corrective action. (Safety is a line responsibility; neither review nor subsequent approval releases line management from its responsibility for safety of people and equipment).

b. Is clearly defined and delineated in writing (e.g., purposes, objectives, functions, authority, responsibility, composition, quorum, meeting frequency, and reporting requirements).

c. Can be audited by contractor management and by the Department. The performance of the system shall be recorded in sufficient detail to permit contractor management and the Department to evaluate its effectiveness. Actions taken on any recommendations resulting from reviews, audits, inspections, appraisals, and surveillance shall be included in these records.

d. Provides technical competence in the areas being reviewed. Each review, except paragraph 7i below, shall be carried out by persons whose technical disciplines cover the range of technical fields encountered in performing a safety review. Safety considerations are to be treated in such breadth and depth as is necessary to identify the potential hazards and to evaluate the risks.

e. Provides for group discussions between reviewers on all but the more routine matters.

f. Provides an independent determination of whether a proposed activity involves an unreviewed safety question, violation of a criticality safety limit or any other matter for which approval is required.

g. Provides an appraisal of the overall operation of each facility at least annually. This appraisal shall be made by individuals the majority of whom are independent of the operation being appraised. It shall include, but not be limited to, applicable areas listed in paragraph h below.

h. Provides for objective and independent review of:

(1) Proposed modifications to nuclear facilities and equipment having safety significance and safety analysis thereof.

(2) Proposed experiments and operations having safety significance.

(3) Procedures, i.e., administrative, operating (normal and abnormal), maintenance, repair, testing, quality assurance, and emergency and significant changes thereto.

(4) Organization and staffing.

(5) Standards, nuclear criticality safety limits, and changes thereto.

(6) Criticality safety training programs, initial and subsequent qualification and certification requirements and procedures.

(7) Occurrences, including those referred to as incidents, operating anomalies and violations of criticality safety limits.

(8) The physical condition of the nuclear facilities.

(9) The accuracy and completeness of recordkeeping and documentation.

i. Is reviewed by contractor management for adequacy of performance at least every 3 years.

8. CONTROL PARAMETERS. Nuclear criticality safety of fissionable materials may be provided by maintaining any one of the single-parameter limits set forth in the latest revision of American National Standards Institute Standard N16-1. Although the single-parameter limits are adequate for many purposes, they are inconveniently and uneconomically small for many others. In many cases, simultaneous limitation of two or more parameters may allow more flexible operational control. General guidance for multiparameter limits may be found in paragraphs 2a, 2e, 2i, and 6, of this chapter. The following basic control parameters for nuclear criticality safety shall be considered:

a. Controlling Factors. Nuclear criticality safety is achieved by exercising control over:

CHAPTER VII

FIRE PROTECTION

1. PURPOSE. This chapter establishes requirements for an "improved risk" level of fire protection sufficient to attain the objectives listed below. A higher standard of protection may be justified in certain instances for the purpose of national security, program continuity, or protection of the public. The objectives of this program are that:

   a. No threats to the public health or welfare will result from fire.

   b. There are no undue hazards to employees from fire.

   c. Vital Department of Energy programs will not suffer unacceptable delays as a result of fire.

   d. Property damage will be held to manageable levels.

2. DEFINITIONS.

   a. Improved Risk. This term has the same meaning and intent as is commonly understood when this term or the term, "Highly Protected Risk," is used in the insurance industry. The term involves the use and application of judgment and thus does not lend itself to a precise, fixed definition applicable in all locations and situations. Generally, an improved risk property is one that would qualify for complete insurance coverage by the Factory Mutual System, the Industrial Risk Insurers, and other industrial insurance companies that limit their insurance underwriting to the best protected class of industrial risk. Essential elements of a program complying with the improved risk concept are included in this chapter. Improved risk protection requires compliance with the fire protection and loss prevention standards detailed in Chapter I of this Order. This term also implies that qualified fire protection engineering judgment has been used to obtain the highest economically justifiable level of industrial loss prevention. The most evident characteristic of an improved risk property is the existence of reliable, automatic fire extinguishing systems throughout all buildings of combustible construction or content where the building is vital to operational continuity or may experience a large property loss from fire in the absence of an automatic extinguishing system.

b. National Security. Those aspects of national security as referred to in the Atomic Energy Act of 1954 that could be affected adversely by fire, explosion, or other catastrophes.

c. Protection of the Public Health and Welfare. Control of fire, explosion, or effects of hazards to minimize potential injury to the public and damage to property not owned by the Department of Energy.

d. Property. All Government-owned or leased property for which the Department has responsibility, except:

(1) Property furnished under Department of Energy contract requiring contractor assumption of the risk of loss or damage to Government furnished property.

(2) Property covered by a private insurance policy specifying the Department of Energy as the beneficiary.

e. Fire Protection. Protection from a broad range of fire risks normally included in the analysis conducted by fire protection engineers. These include some aspects of related perils such as explosion, windstorm, earthquake, lightning, and water damage. Fire prevention programs are a necessary part of a fire protection program.

f. Maximum Credible Loss. The maximum loss that could occur from a combination of events resulting from a single fire. Considerable judgment is required to evaluate the full range of potential losses, but in general, readily conceivable fires in sensitive areas are considered. Examples are power wiring failures in cable trays, flammable liquid spills, and high value parts storage areas or combustible exposures to sensitive machines. Any installed fire protection systems are assumed to function as designed. Due to the uncertainties of predicting human action, the effect of emergency response is generally omitted except for post fire actions such as salvage work, shutting down water systems, and restoring production.

g. Maximum Possible Fire Loss. The maximum possible loss that could occur in a single fire area assuming the failure of both automatic and manual fire extinguishing actions.

h. Property Loss. Property loss is defined as the dollar cost of restoring a damaged facility or equipment to its original condition, whether or not such restoration actually occurs. In determining loss, the estimated damage to the building and its contents shall include replacement cost less salvage value plus the cost of decontamination and cleanup. Effects upon program continuity, auxiliary costs of fire extinguishment, and consequent effects on related areas should be included if the effects can be determined.

i. Consultant Fire Protection Survey Program. The program under which fire protection surveys of principal Department of Energy facilities are conducted for the Operational and Environmental Safety Division by fire protection engineers of selected contractors administered by the Operational and Environmental Safety Division.

j. Fire Protection System. Any system designed to control or extinguish fires or to limit the extent of fire damage. These include:

(1) Automatic suppression systems such as sprinklers, Halon, or carbon dioxide systems.

(2) Watchmen or automatic detection systems, water supplies, plus a fire department.

(3) Walls and doors.

(4) Building separation with credit for water supplies plus a fire department.

3. RESPONSIBILITIES AND AUTHORITIES.

a. The Director, Operational and Environmental Safety Division.

(1) Develops fire protection requirements for Department of Energy programs and facilities and coordinates the development of design criteria with the Director, Office of Construction and Facility Management, and other appropriate Headquarters divisions and offices to assure the consistency of such criteria with the requirements of applicable codes and standards and the provisions of this chapter and Chapter I of this Order.

(2) Evaluates and appraises (per Order DOE 5482.1) the adequacy of field organizations' fire protection programs and provides assistance to all Headquarters divisions and offices and field organizations on all aspects of fire protection.

(3) Administers the consultant fire protection survey program, issues survey reports to applicable field organizations and Headquarters divisions and offices, and reviews the Headquarters and field organization programs for handling recommendations resulting from the surveys.

b. Directors of Program Divisions. As the following matters affect facilities under the director's programmatic responsibility, the director:

(1) Reviews proposed fire protection programs for that property under his responsibility.

(2) Reviews field requests for exemptions from Department of Energy criteria with the Operational and Environmental Safety Division and the Office of Construction and Facilities Management in those exemption requests requiring approval.

(3) Reviews field organization implementation of the recommendations resulting from the consultant fire protection survey program. The Operational and Environmental Safety Division will act as the primary point of contact for the survey program and will distribute survey reports to field organizations and Headquarters divisions and offices as applicable.

(4) For Department of Energy facilities not subordinate to a field organization, the program division shall comply with the procedures under paragraph 3c, below.

c. Heads of Field Organizations.

(1) Provide and maintain an improved risk level of fire protection adequate to meet the objectives under paragraph 1, above, for all physical property or material that represents an investment by the Department.

(2) Provide and maintain a higher standard of fire protection than that required to meet the improved risk requirements in instances when justified for purposes of national security, DOE program continuity, or protection of the public.

(3) Submit requests for exemptions to the Operational and Environmental Safety Division, for those facilities where, in the judgment of the head of the field organization, compliance with the objectives of paragraph 1, above, is not feasible.

(4) Establish and maintain a system to assure that the intent of all Department of Energy fire protection standards is incorporated in the plans and specifications for all new buildings and for major modifications of existing buildings.

(5) Assist the Operational and Environmental Safety Division in coordinating the consultant fire protection team surveys at those facilities included in the survey program, establish action plans for compliance with recommendations resulting from the surveys,

and forward compliance plans, exemption requests, and other requested data to the Operational and Environmental Safety Division.

(6) Establish and maintain lists of facilities for which they have fire protection appraisal responsibility and designate for each the minimum frequency at which Department of Energy fire protection appraisals will be made. This list shall include facilities at which:

(a) Property is valued at $1,000,000 or more. (All values in this paragraph and paragraphs 5c and 5d, below are based on Factory Mutual System's Industrial Cost Trends of July 1979, using a July 1979 multiplier of 1.0. Post-1979 escalated values may be based on either Factory Mutual or Engineering News Record indexes.).

(b) Property valued at less than $1,000,000 is located but where a fire protection appraisal is deemed to be justified.

(c) A credible loss could delay a vital Department of Energy program in excess of 3 months or a significant component of a program in excess of 6 months.

(7) Conduct fire protection appraisals of facilities for which they have responsibility.

(8) Provide loss prevention advice and assistance to contractors in need of assistance or who do not have their own professional staff assistance.

(9) Submit to the Operational and Environmental Safety Division, an annual summary as set forth in Order DOE 5484 (to be issued) covering the fire protection program and loss experience of the previous year.

4. DELEGATION OF "AUTHORITY HAVING JURISDICTION". For those fire protection standards specifying alternative means of compliance subject to "the authority having jurisdiction," this authority is the applicable Department of Energy Headquarters or field organization.

5. COMPLIANCE WITH IMPROVED RISK OBJECTIVES.

a. Threats to the Public Health or Welfare and Hazards to Life. The objectives of having no threats to the public health and welfare and no undue hazards to life from fire can be considered to have been attained when:

(1) Department of Energy buildings comply with the intent of the "Life Safety Code" (National Fire Protection Association Code 101) and with specific requirements of the Occupational Safety and Health Standards (Code of Federal Regulations, Title 29, Part 1910) applicable to exits and fire protection features.

(2) The potential for fast spreading fires is controlled by severe restrictions on the ratings of interior finish materials for flame spread and smoke development and by compartmentation of hazardous materials.

(a) Materials of unusual fire characteristics such as exposed urethane foams and materials developing large quantities of toxic products of combustion should be prohibited for interior finish.

(b) Hazardous materials, such as flammable liquids and explosives, should be severely restricted in quantity and handled in conformance with all applicable codes. Special protection features suitable to the hazard should be installed and limits imposed on the number of people who must be exposed to the hazard.

(c) Where noncompliance with some Life Safety Code provisions may be required for public safety, as in some containment structures, additional protective systems and personnel limits should be maintained.

(3) The facility containment systems are designed to preclude an offsite release of hazardous amounts of toxic materials under maximum credible fire conditions.

(4) Exhaust and ventilation systems, including filters, are protected or isolated from the effects of a credible fire to the extent that hazardous amounts of toxic materials or combustion products will not escape.

(5) Natural or artificial means of controlling liquid runoffs from a credible fire are provided so that contaminated or polluting liquids will not escape the site, including potentially contaminated water resulting from firefighting operations.

b. Unacceptable Program Delays. The objective of no unacceptable impairment of a vital Department of Energy program can be considered to have been attained when:

(1) The maximum credible fire will not result in the loss of use of a vital facility for a period longer than that specified as acceptable to the applicable program division.

(2) In the absence of a defined acceptable shutdown period, the maximum credible fire will not result in the interruption of a vital program (weapons production, uranium enrichment, etc.) for a period in excess of 3 months, or a significant part of a program (major accelerator, single diffusion plant, etc.) for a period in excess of 6 months.

c. Property Damage Limitation. The objective of limiting property loss can be considered to have been attained when fire protection systems are provided as follows:

(1) When the maximum possible property loss is in the range of $1-25 million, an automatic fire protection system is provided that will limit the probable loss to the lower figure.

(2) When the maximum possible property loss is in the range of $25-50 million, a redundant protection system is provided that, even in the failure of the primary system, should limit the loss to the lower figure.

(3) When the maximum possible property loss exceeds $50 million, redundant systems are provided as in (1) and (2), above, and a failure-proof type of fire protection system, such as blank walls or physical separation, is provided to limit the maximum property loss to $75 million.

d. Higher Standard of Protection. A higher standard of protection, usually including some form of automatic protection, is described in paragraph 1 as being justified when certain considerations, beyond those mentioned in paragraph 5 a-c, above, play a major role in the management decision process. The specific level at which an automatic protection system should be installed requires qualified fire protection engineering judgment. In general, the probable loss should be limited to $250,000 in such cases. The following points should be considered in evaluating the need for automatic fire extinguishing systems:

(1) Importance. Vital property may require protection without regard to the dollar loss potential. For example, it may be desirable to protect a low value or temporary storage shed when it may contain critical or long procurement time construction items. In illustration, a trailer may have a temporary protection system when it is used as a control center for a vital, one-time event. Particularly high public visibility or sensitivity may also be justification for protection of otherwise low value property.

(2) Effect on Production. Protection costs may be high in relation to the value protected, but still warranted, as in the case of cooling towers and electrical switchgear, where loss of the unit could result in the shutdown of other facilities.

(3) Cost Versus Benefit Ratios. A building such as a lumber or paint shed may be of low value and importance but may be easily protected by extending sprinklers from an adjoining protected building at a low incremental cost.

(4) Exposure. Construction sheds or trailers may warrant protection when they must be installed in or adjacent to more important facilities.

(5) Future Conditions. Even when the above conditions are not applicable, protection may still be warranted when conditions are extrapolated to the future. For example, a storage building may be of low value when designed, but normal escalation of content value may indicate it would need protection in a few years, in which case it would be more effective to install the protection as part of the original construction. Similarly, evaluation of office or low hazard laboratory occupancies may indicate that the hazard or combustible loading of similar facilities increases consistently with time, justifying protection at an early phase. Provision of automatic protection in the initial construction also allows more flexibility for future modifications. For example, conversion to a higher hazard occupancy may be prohibited due to a lack of appropriate built-in protection.

6. ESSENTIAL ELEMENTS OF AN IMPROVED RISK FACILITY.

a. An improved risk facility is characterized by a sufficiently high level of fire protection to fulfill requirements for insurability by the Factory Mutual System, Industrial Risk Insurers, or other private industrial fire insurance companies that limit their underwriting to the best protected class of industrial risks. A basic requirement is the provision of automatic fire extinguishing systems in all areas subject to serious property damage or business interruption losses as a result of fire. Above all other requirements, to qualify for an improved risk rating, it is necessary that strong, tangible evidence be available attesting to existence of continuing sincere interest by management and employees in minimizing losses from fire and related perils.

b. Department of Energy facilities qualifying as improved risks will incorporate the following physical improvements and internal programs, and maintain records for appraisal of the programs:

(1) Review of plans prior to contemplated construction to assure adequacy of fire risk appraisal and protection, and followup reviews to ensure that fire protection features are provided where necessary to comply with paragraph 5 of this chapter.

(2) Regular self-inspections, tests, fire loss potential reviews and appraisals to identify the nature, location, and severity of fire risks (injuries, dollar loss, programmatic interruption, release of toxic and radioactive materials, etc.); as well as to determine adequacy of fire loss control devices and activities.

(3) Periodic audits by outside fire protection authorities (e.g., contractor facility appraisals by field office fire protection engineers).

(4) Plans, procedures, devices, and trained personnel adequate to permit controlling any credible fire emergency that may arise on the facility.

(5) Limitation by physical means (e.g., geographic isolation, firewalls, firedoors, draft barriers) of areas that can be directly damaged in the event of a single fire.

(6) Quality construction. In most cases, fire resistive or noncombustible type buildings with segregation or isolation of particularly hazardous operations.

(7) Enclosures of adequate fire resistant construction for stairways, elevators, ducts, and other openings coupled with fixed or manual devices (e.g., self-closing doors or dampers, draft stops, or water curtains) to control or to limit both vertical and horizontal fire spread potentials.

(8) Protection of special hazards by isolation, segregation or use of special fire control systems (e.g., automatic sprinklers, inert gas flooding, explosion suppression) together with devices (e.g., relief valves, filters, roof hatches, scuppers, blast walls) for limiting or controlling damage potentials of fire, hazardous smoke, gases, water runoff, etc., that may reasonably be anticipated during a fire emergency.

(9) Adequate, reliable fire protection water supplies and distribution system coupled with adequate hydrants, inside standpipes, and other devices to facilitate utilization of such water during fire emergencies.

(10) Adequate automatic and manual means for detecting and reporting incipient fires (including, but not limited to, watchman service).

(11) Automatic sprinkler protection for all combustible construction or occupancies where potential losses exceed Department criteria.

c. Improved risk facilities shall be appraised periodically by the appropriate Headquarters or field organization in sufficient depth to establish that:

(1) The programs described in paragraph 6b, above, are being conducted.

(2) Loss potentials, including programmatic effects, have been determined and appropriate protection systems have been provided to reduce the effects to the levels acceptable under paragraph 1, or an exemption from these requirements has been obtained.

(3) Effective action has been taken to comply with previous recommendations, initiate corrective actions on previously identified deficiencies, and reduce the adverse effects of noncompliance in areas where compliance has not yet been achieved or where exemptions have been allowed.

(4) Losses, impairments, and unusual incidents are investigated and analyzed in sufficient depth to identify causes, economical and effective corrective methods, and areas where similar problems may exist or where additional studies may be required.

d. In addition to internal, Headquarters, and field organization appraisals, improved risks are generally characterized as those also surveyed by independent third party interests. For major facilities, this service is provided by the consultant fire protection survey program.

e. Periodic fire protection appraisals of each facility shall be initiated by qualified fire protection engineering personnel as soon as practicable after listing of the facility by the Department. The appraisals shall include the items under paragraph 6c, above.

f. In addition to performing periodic appraisals, the appraising office will maintain a continuous surveillance of improved risk facilities by:

(1) Assuring that plans, proposals, loss reports, investigation reports, and other applicable materials are reviewed by knowledgeable personnel in sufficient depth to determine that the facility is maintaining the review and protection programs described in paragraph 6b, above.

(2) Providing technical assistance and advice as requested by the contractor and as deemed necessary by the field office.

(3) Assuring that the facility management is kept advised of requirements, programs, and applicable information generated by Headquarters, or other agencies, and that information developed by the facility or by other facilities with mutual interests, is disseminated among the interested parties.

7. CONSULTANT FIRE PROTECTION SURVEY PROGRAM.

a. Consultant fire protection team surveys will be conducted periodically at facilities determined to be of major importance to the Department of Energy mission. The Department has contracted with major improved risk survey groups to conduct surveys of the improved risk status of Department of Energy facilities.

(1) A survey shall be conducted at each facility containing more than $25,000,000 in replacement value of Government property.

(2) Following the initial survey, a resurvey shall be made at each facility at approximately 4-year intervals.

(3) Reports of the surveys shall be submitted to the Operational and Environmental Safety Division for review and distribution to the appropriate contractors through the field organization and program divisions.

b. For each survey, Headquarters or the field organization:

(1) Shall designate a coordinator to assist the team in obtaining logistical support, facility access, and technical information as determined necessary by the Operational and Environmental Safety Division.

(2) Shall review the contractor's compliance efforts and forward compliance data as requested by the Operational and Environmental Safety Division.

(3) May omit any Department of Energy appraisal that would coincide with the period in which the consultant fire protection team survey is being conducted.

c. Following each survey, the appropriate organization will be requested to submit an action plan.

(1) Action plans are submitted directly to the Operational and Environmental Safety Division.

(2) Initial action plans are requested in the transmittal letter accompanying the final report of the survey and will be due at the next scheduled update.

(3) Action plans will be reviewed by the Operational and Environmental Safety Division and revised status reports will be requested, approximately annually, for those sites requiring prolonged corrective actions.

d. Output data from the action plans shall be furnished yearly to appropriate field organizations and Headquarters divisions and offices to assist in budgeting and planning purposes.

CHAPTER IX

CONSTRUCTION SAFETY AND HEALTH PROGRAM

1. PURPOSE. This Chapter provides guidance and establishes procedures to protect the Department of Energy and Department of Energy contractor employees engaged in construction activities, to protect the general public from hazards in connection with Department construction activities, to protect adjacent property from damage, and to prevent delay or interruption in the Department's programs caused by accidents and fires in connection with Department construction activities.

2. DEFINITIONS.

   a. Department of Energy Project Construction Contractor. Any Department of Energy prime contractor or subcontractor engaged in construction activities exempt from, or not subject to, Nuclear Regulatory Commission licensing, but subject to the contractual provisions of Department of Energy Procurement Regulation 9-50.704-2 or modifications thereof. These contractors may make modifications to existing facilities or construct new facilities for the Department but they are not considered a permanent construction force. Their site tenure may be for short or long periods depending on the nature of the project.

   b. Department of Energy Resident Construction Contractor. Any Department of Energy prime contractor or subcontractor exempt from (or not subject to) Nuclear Regulatory Commission licensing but subject to the contractual provisions of Department of Energy Procurement Regulation 9-50.704-2 or modifications thereof, who is in residence and considered to be permanent. Field organizations that have such contractors include Nevada, Richland, Oak Ridge, Savannah River, and Albuquerque. The tenures of resident construction contractors on site are usually from 3 to 5 years and can be extended.

3. REQUIREMENTS.

   a. Safety and Health Program for Project Construction Contractors. All firms bidding on or selected for Department of Energy construction contracts shall be made fully aware of the requirement to comply with applicable Department safety and health standards listed in Chapter I of this Order. The contractor selected shall be required to submit the following to the contracting officer for acceptance before commencing work:

(1) A descriptive outline of the contractor's program encompassing industrial safety, health protection, and fire prevention and protection aspects. The program should be appropriate to the size of the project and associated hazards, and must include, but not be limited to:

(a) Adequate provision for emergency aid (e.g., trained medical aid personnel and treatment facilities, and adequate fire protection during all phases of construction).

(b) Programs for training, inspections, reporting, and for certifying the safe operating condition and assuring proper maintenance of earthmoving equipment, cranes, vehicles, pressure vessels, protective devices for portable electrical tools, etc.

(c) Adequate provision through meetings, established contacts or other means, for exchange of information on project changes, recognized hazards, identified inspection deficiencies, upcoming phases of work, interface and coordination problems, or other matters among:

1 Supervisors.
2 Crafts representatives.
3 Other contractors and subcontractors on the project.

(2) Past injury, accident, fire, and property damage experience, including motor vehicle, for the previous two years. This information should contain the contractor's and subcontractor's experience. If acceptable to the field organization having jurisdiction, the contractor may submit the previous two years industrial insurance experience modifiers or rates.

(3) The name and qualifications of the jobsite contractor management official assigned responsibility for the administration of the safety and health program.

b. Safety and Health Program for Resident Construction Contractors. The requirements of 3a, above, apply to this type contractor during the initial selection process.

c. Program Compliance. Throughout all phases of a construction project, the contracting officer must be assured that construction activities continue to be conducted in accordance with the approved safety program and that appropriate measures are taken to minimize the possibility of:

(1) Personal injury.

(2) Damage to property on and adjacent to the construction site.

(3) Program interruption or delay resulting from accidents or fires.

(4) Adverse effects on the environment.

d. Department of Energy Onsite Construction Inspections. Department of Energy onsite construction inspections to assure compliance with applicable Department construction safety standards should be conducted, as a minimum, concurrently with major changes in type of construction activity, level of workforce, type of construction crafts on the site, and level of project completion. Factors influencing the frequency (more or less frequent) and scope of such onsite inspections include, but are not limited to the factors listed below. These factors must be taken into consideration and the inspection schedule adjusted accordingly.

(1) The number and type of hazards involved.

(2) Total level of risk to the workforce, property, and environment.

(3) Previous experience with the contractor.

(4) Presence of qualified contractor safety personnel.

(5) Duration of project.

(6) Time elapsed since last inspection.

(7) Availability of independent sources of inspection.

e. Designated Department of Energy Point of Contact. The contracting officer will assure that there is a designated Department of Energy Federal employee (e.g., project manager, resident engineer, etc.) through whom findings of appraisals and inspections may be communicated to the contractor in a manner that assures timely resolution of any noted deficiencies.

4. FEDERAL LAWS. The Safety and Health Regulations for Construction (Code of Federal Regulations, Title 29, Part 1926) are the primary construction safety standard and must be interpreted and applied broadly to the safety and health disciplines associated with Department construction activities. This application also must include assurance that the appropriate posters and complaint forms as required by Order DOE 5483.1, Notice to Employees, Form EV-628, Occupational Safety and Health Complaint, are provided for and made known to contractors and their employees.

CHAPTER XII
PREVENTION, CONTROL, AND ABATEMENT OF ENVIRONMENTAL POLLUTION

1. PURPOSE. This chapter establishes requirements for Department of Energy operations to assure:

   a. Control of sources of environmental pollution.

   b. Compliance with Federal environmental protection laws and with Executive Order 12088.

2. REFERENCES.

   a. Executive Order 11870, Environmental Safeguards on Activities for Animal Damage Control on Federal Lands.

   b. Executive Order 12088, Federal Compliance with Pollution Control Standards.

   c. Reporting of Pollution Abatement Projects.

      (1) Office of Management and Budget Circular A-106, Reporting Requirements in Connection with the Prevention, Control, and Abatement of Environmental Pollution at Existing Federal Facilities.

      (2) Environmental Protection Agency Procedures for Reporting Pollution Abatement Projects for Federal Facilities.

3. RESPONSIBILITIES AND AUTHORITIES.

   a. The Director, Operational and Environmental Safety Division.

      (1) Coordinates Department of Energy operational environmental protection activities with other Federal, state, and regional agencies and authorities (e.g., Congress, the Office of Management and Budget, the Environmental Protection Agency).

      (2) Collects and evaluates information concerning Department of Energy operations affecting environmental quality.

      (3) Prepares Department of Energy pollution abatement plans and progress reports for submission to the Director of the Office of Management and Budget and the Administrator of the Environmental Protection Agency in accordance with the provisions of the Office of Management and Budget Circular A-106.

(4) Reports to the Council on Environmental Quality on Department of Energy pesticide use as requested.

b. Heads of Line Organizations.

(1) In accordance with the provisions of Executive Order 12088, submit to the Director, Operational and Environmental Safety Division, pollution abatement plans which provide for improvement in existing Department operations to meet applicable standards (see paragraph 5 below for details regarding the submission and content of the plans). Copies of the plans shall be sent to the appropriate Headquarters program division or office.

(2) Coordinates activities with regional, state, or local pollution control authorities.

(3) Advise the Director, Operational and Environmental Safety Division, promptly of any instructions, standards, or requirements issued or actions taken by regional, state, or local pollution control authorities that are likely to affect Department operations, including construction activities. (Copies of pertinent material or correspondence shall also be sent to the appropriate Headquarters program division or office).

4. REQUIREMENTS. Environmental protection requirements for Department operations include:

a. Performance of the design, development, construction, operation, surveillance, and maintenance of Department of Energy facilities and activities to assure protection of the public and the environment, and compliance with Executive Order 12088, and all applicable Federal, state, and local pollution control standards and requirements established pursuant to the environmental protection statutes referred to in Section 1-102 of the Executive Order.

b. Submission of pollution abatement plans (see paragraph 5 below) for projects necessary to upgrade existing Department operations to achieve compliance with applicable pollution control standards and requirements referred to in Section 1-102 of Executive Order 12088.

c. Cooperation with Environmental Protection Agency and state, interstate, and local agencies in the prevention, control, and abatement of environmental pollution in accordance with the requirements of Section 1-2 of Executive Order 12088.

d. Assurance that pest control programs for Department operations are conducted safely and in accordance with the requirements of Executive Order 11870, Environmental Safeguards on Activities for Animal Damage Control on Federal Lands, and the Federal Insecticide, Fungicide, and Rodenticide Act, as amended.

e. Control of use, storage, and handling of potential pollutants (e.g., solid fuels, flyash, petroleum products, chemicals, and biological agents) to avoid or to minimize the possibility of their accidental release and resultant damage to the environment. This includes appropriate preventive measures to entrap spillage or unplanned releases and emergency plans and procedures for containing, diverting, removing, or otherwise dealing with accidental pollution.

f. Control of radioactivity discharged to the environment to as low as reasonably achievable levels in accordance with Chapter XI of this Order, and with policies and guidance of the Federal Radiation Council and Environmental Protection Agency as referred to in Section 1-102(g) of Executive Order 12088.

g. Adherence to the procedures referred to in Section 1-7 of Executive Order 12088, for obtaining Presidential exemptions from applicable pollution control standards.

5. POLLUTION ABATEMENT PROJECTS. This paragraph specifies the instructions to be followed by Department of Energy line organizations in implementing the requirements, standards, and guidelines cited in this chapter.

a. Existing Department operations shall be upgraded as necessary to meet the requirements of Section 1-102 of Executive Order 12088. Pollution abatement projects shall be included in a fiscal plan in accordance with the requirements of Section 1-401 of Executive Order 12088 and any Office of Management and Budget instructions issued pursuant thereto, currently, Office of Management and Budget Circular A-106, and Environmental Protection Agency Procedures for Reporting Proposed Pollution Abatement Projects for Federal Facilities. In order that the Department of Energy plan may be prepared by Headquarters and submitted to the Administrator, Environmental Protection Agency by the dates specified, line organizations shall submit their reports semiannually on November 1 and May 1 pursuant to Office of Management and Budget Circular No. A-106 to the Director, Operational and Environmental Safety Division with copies to the program division or office responsible for funding the proposed projects. Negative reports are to be submitted by line organizations in those instances where there are no pollution abatement projects planned or underway.

b. Budget requests for design and construction shall include the funds necessary to comply with the environmental pollution control standards and requirements in paragraph 4 above.

c. Department of Energy operations shall develop and implement a pesticide program in accordance with the requirements set forth in the Federal Insecticide, Fungicide and Rodenticide Act, as amended, and Executive Order 11870.

d. Where differences arise regarding regional, state or local pollution control requirements or standards, line organizations shall initially seek to resolve such differences with the regional, state, or local agencies directly concerned. Assistance of the appropriate Environmental Protection Agency regional office may also be sought where their consultation or guidance may be helpful in resolving such questions. In the event differences of opinion as to the interpretation and application of such standards and requirements cannot be resolved satisfactorily, the facts, and the approach recommended by the line organization shall be forwarded to the Operational and Environmental Safety Division for action with a copy to the appropriate Headquarters program division or office.

e. Any request for a Presidential exemption shall comply with the limitations prescribed in Section 1-701 of Executive Order 12088. The request should be forwarded to the Director, Operational and Environmental Safety Division, with copies to the appropriate Headquarters program division or office and the Office of the General Counsel. Recommendations for Presidential exemptions will be developed by the line organization and transmitted to the Office of Management and Budget under the Secretary's signature in accordance with Office of Management and Budget guidance to be issued in this regard.

*U.S. GOVERNMENT PRINTING OFFICE: 1980-0-341-777/306